

## Comparing the Effect of Storage Time on Dimensional Changes of Two Alginate Impression Materials (Golchay & Bayer)

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### Abstract

**Background and Aim:** Considering the extensive usage of alginate impression materials in dentistry and availability of various brands in the market, quality control of these alginates and assessment of their properties are necessitated. The aim of the present study was to determine the dimensional stability of the impressions made by Golchay Iranian alginate and Bayer German alginate (as the standard) after being stored in moist environment for 0, 12 and 60 minutes.

**Materials and Methods:** In this in-vitro experimental study, 60 impressions were taken from a mandibular acrylic model using Bayer and Golchay alginate materials (30 samples of each material). Impressions were stored 0, 12 and 60 minutes in moist condition (10 specimens in each group) and were poured using stone gypsum. A digital caliper with the accuracy of 0.01 mm was used to measure the mesiodistal dimension, occlusogingival height and inter-arch distance of the gypsum casts. Values of these three dimension variables for two alginates within each time span were analyzed using one-way ANOVA and student t tests (significance level was set at 0.05). 2-way ANOVA test was used to evaluate the effect of time, alginate type and the interaction between these two variables.

**Result:** There was no significant statistical difference between samples of Golchay and Bayer alginates regarding mesiodistal dimension, occlusogingival height and inter-arch Distance ( $P>0.06$ ); moreover, the dimensional stability of the impressions made with each alginate were the same after being stored in moist environment for 0, 12, and 60 minutes ( $P>0.05$ ).

**Conclusion:** It seems that impressions made with Golchay and Bayer alginates have similar dimensional changes over time and in moist environment.

**Keywords:** *Dimension; Vertical; Material; Dental impression*